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IS 10692 (1983): High Density Polyethylene Webbing [TXD 12: Narrow Fabrics, Webbing and Braids]



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Indian Standard
SPECIFICATION FOR
HIGH DENSITY POLYETHYLENE WEBBING

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Indian Standard

SPECIFICATION FOR HIGH DENSITY POLYETHYLENE WEBBING

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Indian Standard

SPECIFICATION FOR HIGH DENSITY POLYETHYLENE WEBBING

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 October 1983, after the draft finalized by the Narrow Fabrics, Webbing and Braids Sectional Committee had been approved by the Textile Division Council.

0.2 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements of high density polyethylene webbing of 40 mm and 60 mm width for using on furniture, bed-bases, etc.

2. MATERIAL

2.1 High density polyethylene (HDPE) tapes of 50 to 150 tex (450 to 1 350 denier) conforming to IS : 6192-1971† may be used for manufacturing HDPE webbing.

3. REQUIREMENTS

3.1 Weave — Plain.

3.2 Length of the Roll — The length of roll when measured in accordance with IS : 1954-1969‡ shall not be less than the declared length.

3.3 The high density polyethylene webbing shall conform to the requirements as given in Table 1.

*Rules for rounding off numerical values (*revised*).

†Specification for monoaxially oriented high-density polyethylene tapes.

‡Methods for determination of length and width of fabrics (*first revision*).

TABLE 1 REQUIREMENTS OF HDPE WEBBING

(Clause 3.3)

SL No.	WIDTH	MASS PER METRE LENGTH	ENDS IN FULL WIDTH	PICKS PER DM	BREAKING LOAD ON FULL WIDTH, Min
(1)	(2)	(3)	(4)	(5)	(6)
	mm	g			N
1	40	12	180	45	1 600
2	60	16	220	50	1 800
Tolerance	± 2mm	± 5 percent	+ 5 percent - 2.5	± 5 percent	—
Methods of Test	IS : 1954-1969*	IS : 1964-1970†	IS : 1963-1981§	IS : 1969-1968	

*Methods for determination of length and width of fabrics (*first revision*).

†Methods for determination of weight per square metre and weight per linear metre of fabrics (*first revision*).

‡Methods for determination of threads per unit length in woven fabrics (*second revision*).

§Method for determination of breaking load and elongation at break of woven fabrics (*first revision*).

3.4 The dyed high density polyethylene webbing shall also conform to the colour fastness requirements as given in Table 2.

3.5 Joint Strength — The average strength of the fabric samples when tested according to the method given in Appendix A shall not be less than 490 N.

3.6 Creep — The average creep of the five samples when tested according to the method given in Appendix B shall not be more than 5.5 percent.

4. PACKING

4.1 The rolls may be supplied loose or packed as detailed in the contract or order.

5. MARKING

5.1 Each roll of webbing shall be suitably marked with the following information:

- Name or trade-mark of the manufacturer,

- b) Net mass of the roll (kg), and
c) Length (m) and width (mm) of webbing in the roll.

**TABLE 2 COLOUR FASTNESS REQUIREMENTS OF
DYED HDPE WEBBING**

(Clause 3.4)

CHARACTERISTIC	REQUIREMENT	METHOD OF TEST
(1)	(2)	(3)
Colour fastness to:		
a) Light	5 or above	IS : 2454-1967*
b) Washing (Test 3)		IS : 764-1979†
1) Change in the colour of the sample	5	
2) Staining on cotton or wool	5	
c) Perspiration (both acidic and alkaline test liquor)		IS : 971-1983‡
1) Change in colour of the sample	5	
2) Staining on wool or cotton	5	

*Method for determination of colour fastness of textile materials to artificial light (xenon lamp).

†Method for determination of colour fastness of textile materials to washing : Test 3 (*second revision*).

‡Method for determination of colour fastness of textile materials to perspiration (*first revision*).

5.2 Each package shall be marked with the number of rolls in the package in addition to those markings given in **5.1**.

5.3 The roll and package may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors may be obtained from the Indian Standards Institution.

6. SAMPLING

6.1 Lot — The rolls of same constructional particulars delivered to a buyer against a despatch note shall constitute a lot.

6.2 Unless otherwise specified in the contract or order, following sampling plan may be followed in respect of non-destructive and destructive tests:

Lot Size (Rolls)	Sample Size for Non-Destructive Tests (Rolls)	Sample Size for Destructive Tests (Rolls)	Permissible No. of Failures (Rolls)	
			For Non- destructive tests	For des- tructive tests
Up to 100	8	3	0	
101 to 300	13	4	1	
301 to 500	20	5	2	
501 to 1 000	32	7	3	None to
Above 1 000	50	10	5	fail

A P P E N D I X A

(Clause 3.5)

METHOD FOR DETERMINATION OF JOINT STRENGTH

A-1. TESTING APPARATUS

A-1.1 Tensile testing machine of constant rate of traverse type with the following provisions:

- Two clamps with suitable provision for gripping the webbing sample stapled with wooden block at one clamp and the free end of the webbing at the other clamp.
- Clamps adjusted to 20 cm.
- The rate of traverse of the testing machine adjusted to 300 ± 15 mm per minute.
- The load range of the machine shall be such that all the observed values would be between 10 and 90 percent of the full scale load. The permissible error in the machine at any point in this range shall not exceed ± 1 percent.

A-2. PROCEDURE

A-2.1 Staple a suitable sample of webbing across its full width to a block of wood by using seven staples through the single thickness of webbing and seven staples through the double thickness of webbing. The staples used shall be made of wire of diameter 0.610 to 0.813 mm. A convenient size for the wooden block is 60 × 25 × 25 mm.

A-2.2 Fix the wooden block in the upper clamp so that tension can be applied along the length of the webbing and in the plane of the stapled joint.

A-2.3 Secure the free end of webbing to the jaws of the lower clamp.

A-2.4 Operate the machine and carry out the test to rupture and record the breaking load of the webbing.

A P P E N D I X B

(Clause 3.6)

METHOD FOR DETERMINATION OF CREEP

B-1. PROCEDURE

B-1.1 Take a sample of webbing of length 1.2 metre.

B-1.2 Draw two lines on the sample, transverse to the warp direction and 100.0 ± 0.1 cm apart. When marking these lines the webbing shall be laid on a smooth flat surface and the minimum necessary tension should be applied to it to keep it straight.

B-1.3 Suspend the webbing vertically from a rigidly fixed clamp.

B-1.4 Fix a second clamp to the free end of the specimen and add weight to this clamp slowly so that the total weight suspended by the webbing is 10 kg. The distance between the two clamps, that is the distance between two transverse lines, shall be 1 m.

B-1.5 Measure the distance (L) between the transverse lines marked on it after the tension has been applied to the specimen for 24 hours.

B-1.6 The value ($L - 100$) is the percentage creep for the specimen.